



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,853	04/02/2001	Simon Jacobs	500744.02	9972
27076	7590	07/05/2007	EXAMINER	
DORSEY & WHITNEY LLP			JARRETT, SCOTT L	
INTELLECTUAL PROPERTY DEPARTMENT			ART UNIT	PAPER NUMBER
SUITE 3400				3623
1420 FIFTH AVENUE				
SEATTLE, WA 98101				
			MAIL DATE	DELIVERY MODE
			07/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/824,853	JACOBS ET AL.	
	Examiner	Art Unit	
	Scott L. Jarrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 May 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2 and 8-12 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 2 and 8-12 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 2/14/07.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 15, 2007 has been entered.

Applicant's amendment canceled claims 1 and 3-7 and amended claims 2 and 8-12. Currently Claims 2 and 8-12 are pending.

Response to Amendment

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Response to Arguments

3. Applicant's arguments with respect to claims 2 and 8-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu, Fuh-Hwa Franklin, A route-neighborhood-based metaheuristic for vehicle routing problem with time windows (1999) in view of Powell et al., U.S. Patent Publication No. 2001/0049619.

Regarding Claim 2 Liu teaches a method for assigning an order to an opening in a schedule after a customer has selected an appointment (windows, slot, block, time, etc.; Abstract; Sections 4.1-4.2, Pages 493-494; Paragraph 2, Page 485; Figure 1) comprising:

- generating a list (set, collection, etc.) of schedulable (available, open, free, bumpable, unscheduled, scheduled, tentative, etc.) time blocks (slots, windows, intervals, appointments, periods, hours, etc.) for a shift (route, schedule, tour, itinerary) identified in the opening; the schedulable time blocks having at least one of a free (open, available, unscheduled, free, etc.) and a virtual free time block and defining a range of time having openings which the order can be assigned, the virtual free time block representing an amount of time in which an order **may be** assigned by bumping (rescheduling, shifting, moving, sliding, jumping, pushing, pulling, etc.) assigned orders

Art Unit: 3623

in a shift (Paragraph 2, Last Paragraph, Page 485; Paragraphs 2, 4, Page 493; Section 4.2, Page 494);

- intersecting (overlapping, overlaying, matching, mapping, unioning, etc.) the opening and the appointment window to obtain a time range define by the opening and appointment window (feasible time window; Steps a-b, Page 491; Section 4.1, Page 493); and

- choosing (inserting, assigning, picking, selecting, etc.) the opening in which to assign the order if a schedulable time block from the list of schedulable time blocks includes the opening and wherein the opening is within the time range (Steps a-b, Page 491; Last Paragraph, Page 493; Paragraphs 1-2, Page 494; Figure 1).

While the automation of scheduling and other methods is old and very well known Liu does not expressly teach that the method for assigning orders to a schedule is embodied on a computer readable medium that causes a computer to perform the method as claimed in the preamble.

Powell et al. teach a computer readable medium having instructions stored thereon for causing a computer to perform a method for assigning an order to an opening in a schedule after a customer has selected an appointment window (Paragraphs 0006-0008, 0013, 0015, 0049, 0059-0061) in an analogous art of order scheduling for the purposes of enabling users (planners, schedulers, etc.) to quickly and efficiently create schedules that meet customer requirements (Paragraph 0013).

More generally, Powell et al. teach a system and method for assigning an order to an opening (time period, shift, calendar, schedule, service provider schedule, time bands, etc.) in a schedule after a customer has selected (requested, picked, chosen, etc.) an appointment window in the schedule (service order, appointment time window), wherein the opening and the appointment window are specified, the method/system comprising (Abstract, Paragraphs 0001, 0004, 0014-0017, 0021-0022, 0034-0037, 0042-0045, 0055):

- generating a list of schedulable time blocks (appointments, reservations, delivery windows, time ranges/slots, estimate of daily schedule, etc.) for a shift (route, itinerary, schedule, calendar, etc.) identified in the opening, the schedulable time blocks having at least one of a free time block (number of days/weeks, service provider schedule/availability, etc.; Abstract; Paragraphs 0016-0017, 0034, 0045, 0055; "A service provider can quickly generate a schedule in real time with narrow time windows at which a service technician may be on site at a customer's residence or facility.", Paragraph 0022; ; Figure 2, Figure 4, Elements 54, 56);

- intersecting (overlaying, mapping, matching, unioning, etc.) the opening and the appointment window to obtain a time range defined by the overlap of the opening and the appointment window (actual service request replacing matching/closets estimated/forecasted service request; Paragraphs 0017, 0036-0037, 0045, 0055; Figure 4, Elements 54, 58, 60; "The scheduling software is used to determine a time window surrounding this insertion point. If the customer accepts this window, then the closest

Art Unit: 3623

estimated service order is replaced by this actual service order, and the daily schedule is recomputed based upon the revised series of service orders.", Paragraph 0017); and

- choosing (selecting, inserting, picking, assigning, allocation, etc.) the opening (available resource, route, appointment, time period/block/window) in which to assign the order if a schedulable time block from the list of schedulable time blocks includes the opening and wherein the opening is within the time range (Paragraphs 0016-0017, 0021-0022, 0049, 0054, 0065; "Each time a real customer service request 38 is allocated for a particular day's schedule, the real service request 38 data (including an allocated time window) replaces the closest simulated point 34. This process continues until a daily schedule is deemed to be full.", Paragraph 0042).

It would have been obvious to one skilled in the art at the time of the invention that the method for assigning an order to a schedule as taught by Liu would have benefited from being automated (embodied on a computer readable medium which when executed/read causes a computer to perform the method steps) in view of the teachings of Powell et al.; the resultant system/method enabling users to quickly and efficiently create schedules that meet customer requirements (Powell et al.: Paragraph 0013).

Further regarding Claim 2 it is noted that the virtual free time blocks merely represent any *time block* (period, window, appointment, interval, order, etc.) wherein the

Art Unit: 3623

method, as currently recited, does not actually bump (move, shift, slide, swap, exchange, etc.) the virtual free time blocks.

For the purposes of examination the examiner **assumes** the applicant will amend the claim to recite that scheduling method actually assigns orders to a schedule/shift by bumping (shifting, moving, sliding, revising, updating, preempting, pushing, pulling, etc.) an already assigned time block/virtual free (window, period, order, slot, appointment, etc.).

Additionally it is noted that nearly any calendaring system/method lists a plurality of schedulable time blocks comprising free and virtual free (busy, tentative, already scheduled appointments) where users commonly reschedule (bump, move, cancel) already scheduled appointments (virtual free) for any of a plurality of reasons. In fact a calendaring application without the ability to bump already scheduled appointments would be virtually useless.

Art Unit: 3623

6. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solomon, Marius M. Algorithms for The Vehicle Scheduling Programs with Time Window Constraints (1987) in view of WebVan as evidenced by at least the following:

- I. Clyde, Witt, UPDATE: Material Handling in the Food Industry (October 1999), herein after WV1;
- II. Borders et al., WO 00/68859 (November 2000), herein after WV2; and
- III. Borders et al., WO 00/68856 (November 2000), herein after WV3.

Regarding Claim 8 Solomon teaches a system and method for assigning an order to a schedule (route, shift, itinerary, etc.; Section 1.3, Page 257):

- checking a list of openings (timeslots, blocks, windows, shifts, schedules, time, etc.) for overlap (intersection, overlay, coincide, etc.) with the appointment window (Column 2, Paragraphs 1, 5, 7, Page 255; Column 1, Page 256; Section 1.3, Page 257);
- generating a list of schedulable (feasible, available, open, free, bumpable, unscheduled, etc.) time blocks (slots, windows, intervals, appointments, hours, etc.) for a shift (schedule, route, itinerary) in the opening; the schedulable time blocks having at least one of a free (open, available, unscheduled, free, etc.) and a virtual free time block and defining a range of time having openings which the order can be assigned, the virtual free time block representing an amount of time in which an order **may be** assigned by bumping (pushing forward, pushing backward, rescheduling, shifting, moving, sliding, etc.) assigned orders in a shift (Column 2, Paragraphs 1, 5, 7, Page 255; Column 1, Page 256; Section 1.3, Page 257);

Art Unit: 3623

- assigning (inserting, allocating, etc.) the order to the schedule if there is an opening in the list of openings that overlaps with the appointment window **or** opening in the list of schedulable time blocks that overlaps with the appointment window (Column 2, Paragraphs 1, 5, 7, Page 255; Column 1, Page 256; Section 1.3, Page 257);.

While Solomon teaches that customer's specify appointment windows (Column 1, Paragraph 2, Last Paragraph, Page 254) Solomon does not expressly teach that the order is scheduled *after* a customer has specified an appointment window as recited in the preamble.

Webvan teaches assigning an order to a schedule after the customer has specified an appointment window (reference WV1: Paragraphs 2-4, Page 4; Paragraphs 1-3, Page 7; reference WV2: transportation subsystem, route planner, delivery window estimator component, dispatch subsystem; Pages 18-19, 45-47; Figure 1, Elements 118, 124, 132, 160; Figure 5; Figure 7A, Elements 10-22; reference WV3: route planning, Pages 37-41; Pages 3, 18, 33-35, 38-40) in an analogous art of order scheduling for the purposes of determining the availability of order (delivery) resources and route planning (reference WV3: Pages 18-19; reference WV3: route planning, Pages 37-41).

More generally WebVan teaches a system and method for assigning an order to a schedule after a customer has specified an appointment window in the schedule, the method/system comprising (reference WV1: Paragraphs 2-4, Page 4; Paragraphs 1-3,

Page 7; reference WV2: transportation subsystem, route planner, delivery window estimator component, dispatch subsystem; Pages 18-19, 45-47; Figure 1, Elements 118, 124, 132, 160; Figure 5; Figure 7A, Elements 10-22; reference WV3, Pages 3, 18, 33-35, 38-40):

- checking a list of openings for overlap with the appointment window (zone window creator, delivery window estimator component, delivery window reservation, delivery scheduling, scheduled delivery hours; reference WV2: "One function of the Transportation Subsystem is to generate a list of available delivery windows (for presentation to the customer) based upon transportation capacity data such as, for example, the number of couriers available, the number of delivery vehicles available, the number of orders for a particular day, truck routes, etc.", Lines 20-33, Page 18; Lines 1-18, Page 19; Lines 31-32, Page 44; Lines 31-33, Page 45; Lines 1-11, Page 46; Figure 7A, Elements 10-22; reference WV3: Page 3, Lines 13-21, Page 21; Lines 19-23, Page 24; Lines 18-22, Page 33; Pages 34-35);

- generating a list of schedulable time blocks if there is no overlap, each of the schedulable time blocks having at least one of a free time block and defining a range of time having openings in which the order can be scheduled (e.g. adding new routes, providing customer with alternative delivery times/windows if one or more items are not deliverable in the selected time window, window templates, etc.; reference WV2: Lines 31-32, Page 44; Lines 1-2, Page 45; reference WV3: Lines 1-9, Page 7; Lines 11-16, Page 32); and

- assigning the order to the schedule if there is an opening in the list of openings that overlaps the appointment window or an opening in the list of schedulable time blocks that overlaps with the appointment window (allocating orders to specific routes, trucks, zones, delivery schedules/windows, stops, etc.; route planner, dispatch subsystem, reserving subsystem capacities; reference WV2: Lines 20-32, Page 18; Lines 21-30, Page 19; Lines 1-8, Page 20; Lines 8-31, Page 38; Lines 1-19, Page 39).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for assigning an order to a schedule as taught by Solomon would have benefited from assigning the order to a schedule after the customer specified an appointment window in view of the teachings of WebVan; the resultant system/method determining the availability of order (delivery) resources and route planning (reference WV3: Pages 18-19; reference WV3: route planning, Pages 37-41).

Further regarding Claim 8 it is noted that the virtual free time blocks merely represent *any time block* (period, window, appointment, interval, order, etc.) wherein the method, as currently recited, does not actually bump (move, shift, slide, swap, exchange, etc.) the virtual free time blocks.

For the purposes of examination the examiner **assumes** the applicant will amend the claim to recite that scheduling method actually assigns orders to a schedule/shift by bumping (shifting, moving, sliding, revising, updating, preempting, pushing, pulling, etc.) an already assigned time block (window, period, order, slot, appointment, etc.).

Regarding Claim 9 Solomon teaches a system and method for assigning an order further comprising updating a tour (shift, schedule, duty, length, start/end, etc.) time of the shift wherein updating includes (Column 1, Paragraph 3, Page 254; Column 1, Page 256; Column 2, Last Paragraph, Page 256; Column 2, Paragraph 1, Page 257):

- incrementing the time required to travel to the order from the next order (Column 2, Last Paragraph, Page 256; Column 2, Paragraph 1, Page 257); and
- incrementing a booked (assigned, busy, scheduled, etc.) time for the shift by an amount of time needed for traveling to the order and an amount of time needed to work on the order (Column 2, Last Paragraph, Page 256; Column 2, Paragraph 1, Page 257).

Solomon does not expressly teach adjusting a load level of the shift to account for the order as claimed.

WebVan teaches a system and method for assigning orders to a schedule further comprising updating a tour time of the shift (schedule, itinerary, route, calendar, etc.), wherein updating includes incrementing the time required to travel to the order and from the order to a next order, wherein updating includes incrementing a booked time for the shift by an amount of time needed for traveling to the order and an amount of time needed to work on the order and wherein updating includes adjusting a load level

Art Unit: 3623

(capacity) of the shift to account for the order (reference WV3: "Route Planning", Lines 20-25, Page 37; Pages 38-40; "Van Stop Process", Pages 64-65; "Tote to Door Process", Pages 65-66) in an analogous art of order scheduling for the purpose of updating resource (delivery) availability (capacity – e.g. trucks, vans, totes, etc.) to ensure that there is enough capacity (load) to service customer appointments/deliveries and potentially assign/release additional resources if necessary (reference WV2: capacity profile; Pages 37-39; reference WV3: consumer delivery scheduling, Pages 33-35).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for assigning an order to a schedule as taught by Solomon, with its ability to account for capacity constraints as part of the order assignment process, would have benefited from adjusting a load level of a shift to account for the order in view of the teachings of WebVan; the resultant system/method keeping resource (delivery) availability (capacity – e.g. trucks, vans, totes, etc.) up-to-date thereby ensuring there is enough capacity (load) to service customer appointments/deliveries and potentially assign/release additional resources if necessary (reference WV2: Paragraphs 1-2, Page 39; reference WV3: consumer delivery scheduling, Pages 33-35).

Regarding Claim 10 Solomon teaches a system and method for assigning orders to a schedule further comprising aggregating at least two orders according to an aggregation criteria (Section 1.2, Pages 256-257).

Art Unit: 3623

7. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solomon, Marius M. Algorithms for The Vehicle Scheduling Programs with Time Window Constraints (1987) in view of WebVan as evidenced by at least the following:

- I. Clyde, Witt, UPDATE: Material Handling in the Food Industry (October 1999), herein after WV1;
- II. Borders et al., WO 00/68859 (November 2000), herein after WV2; and
- III. Borders et al., WO 00 (November 2000), herein after WV3.

as applied to claims 8-10 above, and further in view of Nanny et al., Solving the pickup and delivery problem with time windows using reactive tabu search (2000).

Regarding Claim 11 Solomon does not expressly defragmenting a set of free time blocks in the shift as claimed.

Nanny et al. teaches well known techniques for defragmenting (reorganizing, re-planning, optimizing, shuffling, swapping, etc.) a set of time blocks (time periods, route stops, delivery windows, appointments, schedules, vans, trucks, etc.) in the shift (schedule, route, etc.; Section 3.2 Move Neighborhoods, Pages 112-113; Figures 1-3) in an analogous art of assigning orders to time windows for the purposes of developing an initial feasible delivery schedule solution for multiple routes (Section 3.1, Pages 111-112).

Art Unit: 3623

It would have been obvious to one skilled in the art at the time of the invention that the system and method for assigning orders to a schedule as taught by the combination of Solomon and WebVan would have benefited from utilizing any of a plurality of well known schedule optimization techniques such as defragmenting time blocks in view of the teachings of Nanny et al.; the resultant system/method developing an initial feasible delivery schedule solution wherein all orders are delivered (Nanny et al.: Section 3.1, Pages 111-112).

Regarding Claim 12 Solomon does not expressly teach utilizing a database as claimed.

WebVan teaches a system and method for assigning an order further comprising committing the shift, which has been modified to fit the order, to a database (data warehouse; reference WV2: Figure 1, Elements 180; reference WV3: route planner, Pages 38-40) in an analogous art of order scheduling for the purpose of storing, analyzing and reporting on a plurality of information (reference WV2: data warehouse subsystem, Pages 27-29; reference WV3: order database, Pages 36-37).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for assigning an order to a schedule as taught by Solomon would have benefited from committing a plurality of schedule, shift, tour and order information into a database in view of the teachings of WebVan; the resultant

system/method enabling users to store, analyze and report on a plurality of the order, delivery and other information stored in a repository/data warehouse (WV2: Last Two Paragraphs, Page 27; Paragraphs 1, 5, Page 28).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Levine, U.S. Patent No. 5,113,380 and U.S. Patent No. 5,289,531, teach a system and method for assigning an order to an opening in a schedule comprising generating and displaying a list of free/schedulable and virtual free time blocks (windows, time slots), bumping (rescheduling) existing orders (appointments) based on updated and/or new orders.

- Fitzpatrick et al., U.S. Patent No. 5,774,867, teach a system and method for assigning orders (appointments) into a schedule comprising generating, checking and displaying a list of schedulable time blocks including free and virtual free time blocks.

- Lily et al., U.S. Patent No. 6,088,626, teach a system and method for assigning orders into a schedule wherein existing orders are bumped (backward, forward scheduling) to schedule new and/or updated orders.

- Wellner et al., U.S. Patent No. 6,219,412, teach a system and method for assigning orders into an opening in a schedule after a customer has selected an appointment window in the schedule further comprising generating a list of schedulable time blocks including fee and virtual free time blocks wherein the virtual free time blocks represent an amount of time in which an order assigned by bumping assigned orders in the shift/schedule (bumpable reservations).

- Ferland et al., Vehicles scheduling with sliding time windows (1989), teach a method for assigning an order to an opening in a schedule wherein the assignment

Art Unit: 3623

enables orders to be bumped (slide) in order to accommodate new and/or updated orders in the schedule.

- Johns, Heuristics to Schedule Service Engineers Within Time Windows (1995), teaches a method for assigning orders to an opening in a scheduling after a customer has selected an appointment window comprising inserting new/updated orders (emergent) into a schedule of existing orders wherein orders are allowed to overlap.

- Balakrishnan, Simple Heuristics for the Vehicle Routeing Problem with Soft Time Windows (1993), teach a method for assigning orders to a schedule wherein customer's specify appointment windows, shifts (route time) include travel, service and wait time and appointment (time windows) are bumpable (movable) based on a appointment window violation penalty function.

- Smith, Reactive Scheduling Systems (1994), teach a system and method for assigning orders to a schedule wherein the system/method generates and checks a list of schedule time blocks comprising free and virtual free time blocks wherein the virtual free time blocks represent an amount of time in which an order may be assigned by bumping assigned orders in a shift (schedule; right shifter, left shift, swapped).

- Larsen, The Dynamic Vehicle Routing Problem (2001), teach a plurality of well-known methods, techniques and processes for assigning orders to a schedule.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

Art Unit: 3623

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Scott Jarrett
Asst. Examiner
June 27, 2007